

FF-L-2740
INT. AMENDMENT-2
February 25, 1994
SUPERSEDING
Int. Amendment-1
February 9, 1994

INTERIM AMENDMENT
TO
FEDERAL SPECIFICATION
LOCKS, COMBINATION

This interim amendment was developed by the General Services Administration, Federal Supply Service, National Furniture Center, Washington, DC 20406, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this interim amendment as a valid exception to FF-L-2740, dated October 12, 1989.

Page 1

Paragraph 1.1

Add a new sentence at the end of the paragraph, as follows: "The specification also addresses technical requirements for automatic deadbolt locks designed to be used in conjunction with surface mounted combination locks on strong room and secure area doors."

Paragraph 1.2

Add the following before Style II:

Configuration I - Combination lock

Add the following after Size SD:

Configuration II - Pedestrian door, combination, deadbolt lock

Model KL - Key lock life safety feature

Model SL - Non-keylocking life safety feature

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FSC 7110

public release;

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Class DR - Drill resistant
Class NDR - Non-drill resistant

Strike #1 - Single or double door inswing mortise
Strike #2 - Single door outswing
Strike #3 - Single or double door inswing surface
Strike #9 - Double door outswing surface

Add a new paragraph as follows:

1.2.1 Reference Identification Number (RIN). A specification based Reference Identification Number to identify configurations, styles, models, classes, types, sizes and strikes is addressed in paragraph 6.5 of this specification.

Page 3

Add the following to the end of paragraph 2.2.

National Fire Protection Association

NEPA 101 - Life Safety Code

(Application for copies should be addressed to the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.)

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Paragraph 3.4.6

Add the following new sentence: "The torque required to retract the bolt shall not exceed 50 inch-ounces (35.3 N-cm)."

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Add new paragraphs:

3.4.13 Life safety feature. Pedestrian door combination deadbolt locks shall be designed with a life safety feature in the form of a bolt hold back feature meeting the requirements of NFPA 101. The life safety feature shall be designed to automatically hold the deadbolt in a non-locked position as soon as the deadbolt is retracted. The life safety feature must be able to prevent inadvertent or malicious engagement while the area being protected is occupied, and ensure a quick, safe exit in the case of an emergency. The life safety feature shall be of

two different models. Model KL shall be equipped with a key lock. Model SL shall be equipped with a non-locking device.

3.4.13.1 Key lock life safety feature. The bolt hold back feature on Model KL locks shall use a conventional key cylinder. Each Model KL deadbolt lock shall be furnished with two keys.

3.4.14 Automatic deadbolt mechanism. The pedestrian door locks shall have a trip device that will automatically extend the deadbolt into the locked position upon release of the hold back feature and mechanism engagement of the strike.

3.4.15 Strikes. The pedestrian door lock shall have an interlocking strike to prevent jamming or spreading the door frame. Each deadbolt shall be furnished with a strike as specified (see 6.5.2).

3.4.16 Drill resistant feature. When a Class DR pedestrian door combination deadbolt lock is specified, it shall be supplied with a drill resistant mounting plate, minimum 1/2" (12.7mm), maximum 5/8" (15.9mm) thick by 5-5/8" (142.9mm) wide by 5" (127mm) high. The mounting plate shall be designed to be mounted to the exterior surface of the door, and the dial ring shall be mounted to it. The drill resistant plate shall prevent penetration by drilling for a period of 20 minutes.

3.4.17 Escape feature. The bolt shall be able to be retracted from inside the area being secured, when the lock is locked and the deadbolt extended, without use of a key or other device. When so retracted, the bolt shall automatically be held in a retracted position when the door is open, and shall automatically extend into the locked position upon mechanism engagement of the strike.

Paragraph 3.5.2

Delete the sentence beginning, "When a graduated dial is provided....," and substitute the following:

"When a graduated dial is provided, the dial shall be numbered with distinct divisions to facilitate reading."

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Paragraph 3.5.6

Delete the paragraph and substitute:

3.5.6 Lock bolt. Unless otherwise specified, the lock bolt cross section shall be 0.310" ± 0.005 " by 0.995" ± 0.005 ", -0.003" (7.87mm ± 0.13 mm by 25.27mm ± 0.13 mm, -0.08mm). The bolt throw shall be not less than 0.312" (7.92mm). On the pedestrian door lock, the exposed portion of the deadbolt shall have hardened steel pin inserts. The cross section and configuration of the deadbolt on the pedestrian door lock may vary as required for the proper functioning of the lock. Any variations in the bolt dimensions shall be approved by the activity responsible for the lock qualification.

Paragraph 3.6.4

Delete "priviledged" and substitute "privileged".

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Add new paragraph:

3.9 Instructions. Manufacturer's instructions, normally furnished in commercial practice, describing how to mount and operate the lock shall be furnished with each lock. Instructions for pedestrian door locks shall cover the combination lock as well as the deadbolt. This requirement does not apply to locks shipped in bulk to container or vault door manufacturers.

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Paragraph 4.2

Add to the end of the paragraph, after item (d):

- (e) Operating temperature test - 4.5.2.5
- (f) Inspections - 4.6

Paragraph 4.4

Delete "4.4.2" and substitute "4.4.3."

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Paragraph 4.5.1.4, first line:

Delete "Ten test samples" and substitute "Twenty test samples".

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Paragraph 4.5.2.1

Delete "3.4.10" and substitute "3.4.9."

Add new paragraph:

4.5.2.1.1 Life safety feature operation test. The deadbolt and life safety feature of the pedestrian door combination deadbolt lock shall be subjected to 10,000 cycles of operation without replacement of any component. One cycle shall consist of:

- a. Bolt retraction (using interior bolt retraction device)
- b. Life safety mechanism engagement and disengagement
- c. Automatic deadbolt operation (door strike plate contact)

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Add new paragraphs:

4.5.2.5 Temperature test.

4.5.2.5.1 Low temperature test. The lock shall be placed in chamber maintained at a temperature of -10°F for a period of three hours or until the lock temperature has stabilized. At the end of that period, without removing the lock from the chamber, ten attempts shall be made to open the lock, using normal dialing procedures. The lock shall open at least six out of ten times. Slower than normal operation of electro-mechanical lock designs is not considered failure. After ten attempts, the lock shall be removed from the chamber and allowed to return to room temperature. Ten more opening attempts shall be made. The lock shall open all ten times. The lock shall be examined for any damage or defects due to the low temperature exposure. There shall be no defects affecting the operation or life of the lock.

4.5.2.5.2 High temperature test. The lock shall be placed in a chamber maintained at a temperature of 155°F for a period of three hours. At the end of that period, the lock shall be removed from the chamber and without allowing time for the lock to cool, the lock shall be opened five times using normal dialing procedures. The lock shall then be placed back in the chamber and the temperature shall be increased to 160°F. After one hour, the lock shall be removed from the chamber and an attempt shall be made to open it. Retraction of the lock bolt shall constitute failure (see 3.4.10).

4.6 Inspections. A visual inspection shall be made to determine compliance with the requirements specified in the following paragraphs:

- 3.3.3 Materials
- 3.4.1 Hand change locks
- 3.4.2 Key change locks
- 3.4.3 Bolt lockout
- 3.4.4 Combinations
- 3.4.5 Lock operation
- 3.4.6 Lock bolt operation
- 3.4.7 Combination redial
- 3.4.8 Case access
- 3.4.9 Wheel torque
- 3.4.13 Life safety feature
- 3.4.14 Automatic deadbolt mechanism
- 3.4.15 Strikes
- 3.5.2 Dial and dial rings
- 3.5.3 Spindle
- 3.5.4 Tubes
- 3.5.5 Case and cover
- 3.5.6 Lock bolt
- 3.5.7 Finish
- 3.5.8 Workmanship
- 3.7 Marking
- 3.9 Instructions

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Paragraph 6.2

Delete item (b) and substitute the following:

- b. Configuration, style, model, class, type, size and strike (as appropriate).

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Paragraph 6.4

Delete "og" and substitute "of".

Delete paragraph 6.5 and substitute the following:

6.5 Reference identification number. The reference identification number (RIN) system may be used for items covered by this specification. An example of the RIN is as follows:

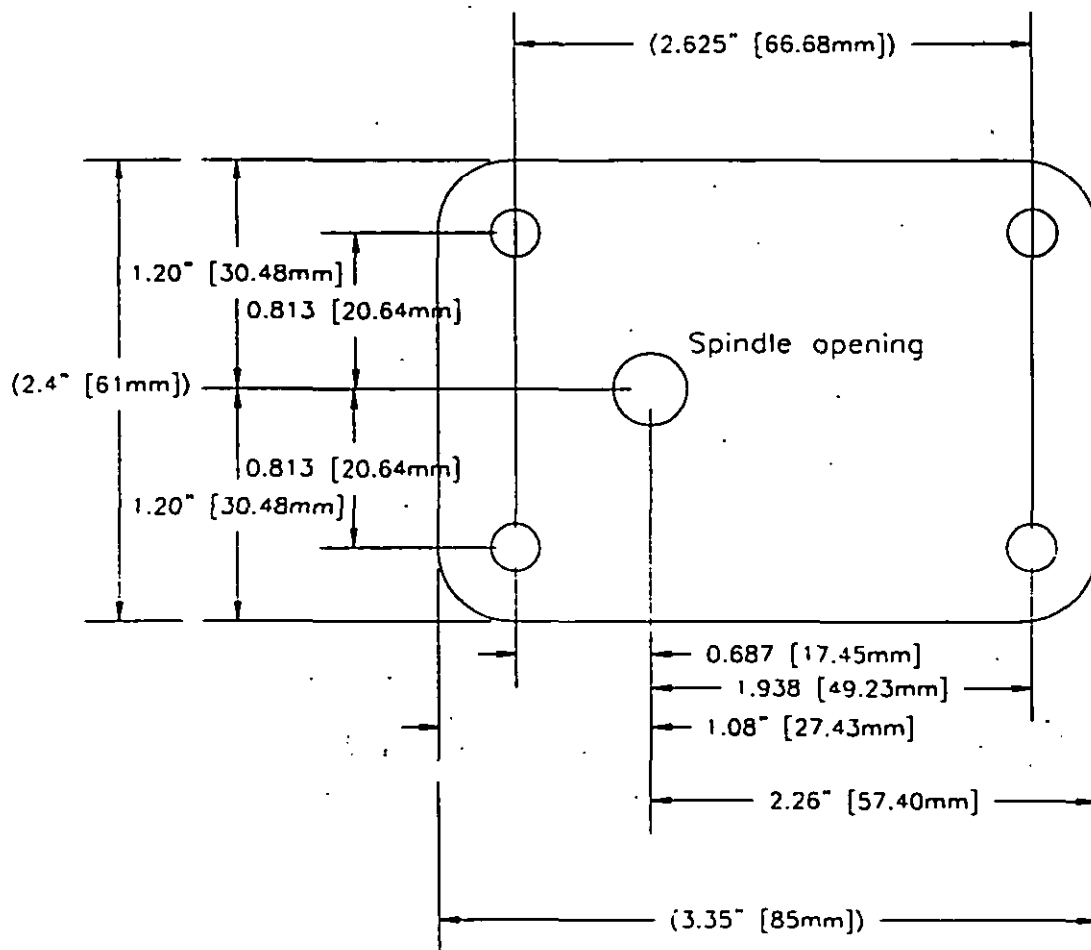
FFL2740-2 A D N S

- L - Size LD - Large dial
 - S - Size SD - Small dial
 - N - Type NT - Non-tube type
 - T - Type T - Tube type
 - A - Class DR - Drill resistant
 - B - Class NDR - Non-drill resistant
 - C - Class TR - Top reading
 - D - Class FR - Front reading
 - A - Model HC - Hand change combination
 - B - Model KC - Key change combination
 - C - Model KL - Key lock life safety feature
 - D - Model SL - No lock life safety feature
 - 2 - Config. I, Style II - Combination lock
 - 1 - Config. II, Strike 1
 - 3 - Config. II, Strike 3
 - 4 - Config. II, Strike 2
 - 9 - Config. II, Strike 9
- Specification number

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Delete Figure 1 and substitute the attached Figure 1.

Add new Figures 2a, 3a and 4.



Tolerances:

XX.XX ± 0.01 [± 0.25 mm]

XX.XXX ± 0.005 [± 0.13 mm]

FIGURE 1
Schematic arrangement of lock case holes.

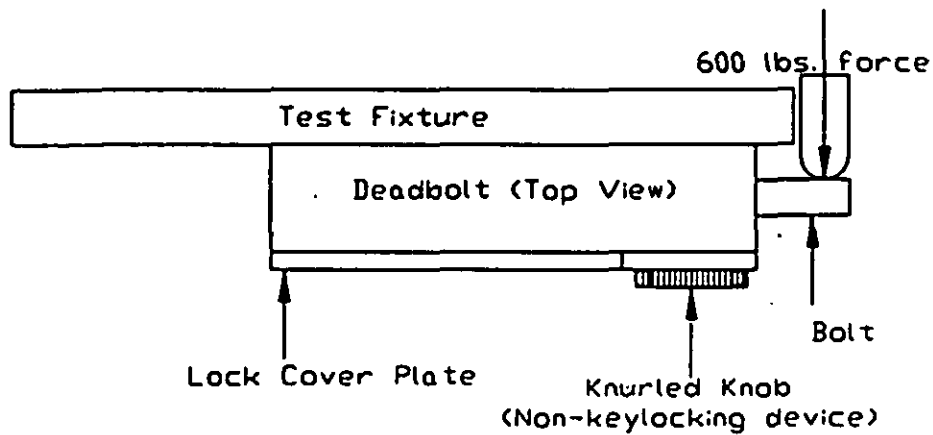


Figure 2a - Case and Bolt Strength Test

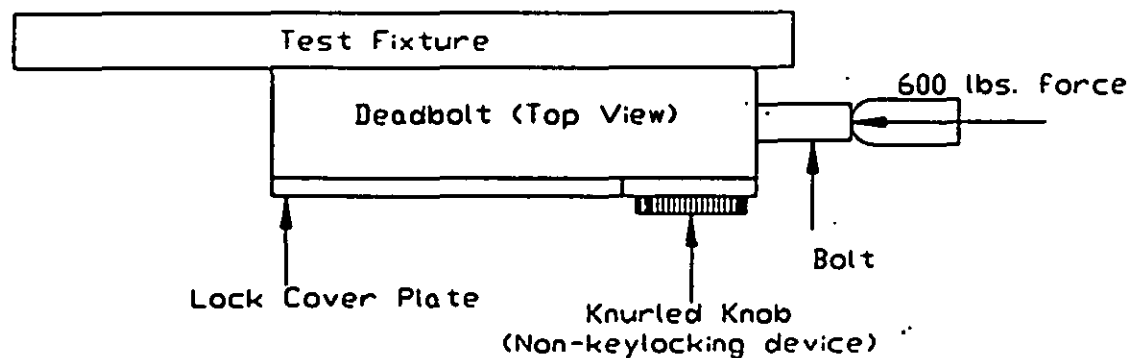


Figure 3a - Bolt End Pressure Test

Pedestrian Door Lock Test Fixture:

- (1) Vertically mounted, 3/8 inch thick steel plate approx. 19 inches wide by 11 inches high.
- (2) Drilled and tapped to allow for mounting deadbolt.
- (3) Hinged to allow for cyclic test using strike.

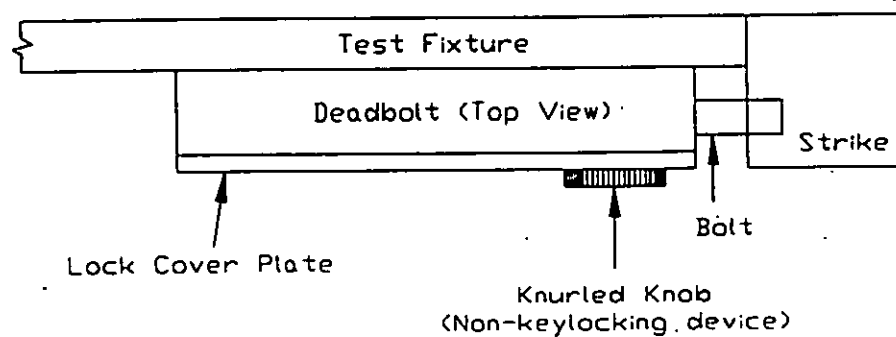


Figure 4 - Test Fixture Configuration